What is claimed is:

1.   A method of communication in a publish/subscribe environment in which publisher programs send messages to subscriber programs via one or more message brokering systems, the method comprising the following steps:

        responsive to receipt of a published message at a message broker, referring to characteristics of the received message and subscriber-specified quality of service requirements to determine an appropriate quality or service for onward transmission of the message;

        selecting a communication protocol in accordance with the determined quality of service; and

        transmitting the message using the selected communication protocol.

2.   A method according to claim 1, wherein the subscriber-specified quality of service requirements include an indication of whether transactional message delivery is required, and wherein the protocol selecting step comprises selecting a transactional communication protocol at least for transactional messages which match subscriptions including said transactional message delivery requirement.

3.   A method according to claim 1, wherein the subscriber-specified quality of service requirements include an indication of whether transactional message delivery is required, and wherein the protocol selecting step comprises selecting a non-transactional

communications protocol for messages for which matching
subscriptions do not include said transactional message
delivery requirement.

5   4.   A method according to claim 3, wherein the protocol
selecting step comprises selecting a non-transactional
communications protocol for any messages marked as
non-persistent and for any messages for which matching
subscriptions do not include said transactional message
10   delivery requirement.

5.   A method according to claim 1, for communication
between first and second message brokering systems in a
multi-broker network, wherein the first message brokering
15   system is configured to access a repository storing
subscriber-specified quality of service requirements for
subscriber programs which connect to the broker network
via the second message brokering system, and wherein the
first message brokering system determines a quality of
20   service for the communication by referring to the
subscriber-specified quality of service requirements for
the subscriber programs which connect to the broker
network via the second message brokering system.

25   6.   A method according to claim 5, wherein the second
brokering system sends to the repository aggregate
quality of service requirements for the set of subscriber
programs which connect to the broker network via the
second message brokering system.

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7.   A method according to claim 6, wherein each
brokering system in a multi-broker network sends to its
connected message brokering systems aggregate quality of
service requirements for the set of subscriber programs
5   which are accessible via that brokering system.

8.   A method according to claim 5, wherein the second
brokering system sends to the repository
subscriber-specific quality of service requirements for
10   each subscriber program which connects to the broker
network via the second message brokering system.

9.   A method according to claim 5, wherein the second
brokering system sends to the repository separate quality
15   of service requirements for each of a plurality of
different topics or topic groups.

10.   A method according to claim 5, wherein the
subscriber-specified quality of service requirements
include an indication of whether transactional message
20   delivery is required, and wherein the protocol selecting
step comprises selecting a transactional communication
protocol for transactional messages which match
subscriptions including said transactional message
25   delivery requirement.

11.   A method according to claim 10, wherein a
non-transactional message delivery protocol is selected
for any messages for which matching subscriptions do not
30   include said transactional message delivery requirement.

12.   A method according to claim 5, including applying one or more override policy rules to determine whether to override a specified quality of service when no communication connections are available which provide the specified quality of service.

13.   A method according to claim 12, wherein the override policy rules are message topic specific.

14.   A method according to claim 12, wherein the override policy rules are subscriber specific.

15.   A method according to claim 5, wherein the first and second message brokering systems are configured for establishing a plurality of communication connections there between, each connection providing a different quality of service, and wherein the selection of a communication protocol by the first message brokering system includes determining which of the plurality of connections are currently available for sending a message to the second brokering system and selecting a communication protocol provided by a currently available connection in accordance with the determined quality of service.

16.   A method according to claim 15, including applying one or more override policy rules to determine whether to override a specified quality of service when no communication connections are currently available which provide the specified quality of service.

17. A method according to claim 1, wherein the message
broker determines an appropriate quality of service by
determining which subset of subscribers are currently
connected to the message brokering system and referring
to the subscriber-specified quality of service
requirements for only the currently connected subset of
subscribers.

18. A method according to claim 17, wherein the
subscriber-specified quality of service requirements
include an indication of whether transactional message
delivery is required, and wherein the protocol selecting
step comprises selecting a transactional communication
protocol for messages which match subscriptions which
include said transactional message delivery requirement,
for only the currently connected subset of subscribers.

19. A method according to claim 18, wherein a
non-transactional message delivery protocol is selected
for any messages for which matching subscriptions do not
include said transactional message delivery requirement.

20. A method according to claim 17, for communication
between first and second message brokering systems in a
multi-broker network, wherein the first message brokering
system is configured to access a repository storing
subscriber-specified quality of service requirements for
subscriber programs which connect to the broker network
via the second message brokering system and wherein the
first message brokering system determines a quality of

service for the communication by referring to the
subscriber-specified quality of service requirements for
the subscriber programs which connect to the broker
network via the second message brokering system and by
referring to connection status information for
connections between the first and second brokering
systems.

21. A method according to claim 17, for communication
between first and second message brokering systems in a
multi-broker network, wherein the first message brokering
system is configured to access a repository storing
subscriber-specified quality of service requirements for
subscriber programs which connect to the broker network
via the second message brokering system and wherein the
first message brokering system determines a quality of
service for the communication by referring to the
subscriber-specified quality of service requirements for
the subscriber programs which connect to the broker
network via the second message brokering system and by
referring to connection status information for
connections to said subscriber programs.

22. A message brokering system, configured to provide a
publish/subscribe service for publisher and subscriber
programs, comprising:
       means, responsive to receipt of a published message
at the message brokering system, for determining an
appropriate quality of service for onward transmission of

the message in accordance with subscriber-specified
quality of service requirements for the received message;

     means for selecting a communication protocol in
accordance with the determined quality of service; and

5   means for transmitting the message using the
selected communication protocol.

23. A data processing system comprising:

     at least a first and a second message brokering
10 systems, configured to provide a publish/subscribe
service for publisher and subscriber programs, the data
processing system being configured to establish a
plurality of communication connections between the first
and second brokering systems, each connection providing a
15 different quality of service, wherein the first message
brokering system includes:

     means, responsive to receipt of a published message
at the first message brokering system, for determining an
appropriate quality of service for transmission of the
20 message to the second brokering system in accordance with
subscriber-specified quality of service requirements for
the received message;

     means for selecting a communication protocol
provided by one of said communication connections, in
25 accordance with the determined quality of service; and

     means for transmitting the message to the second
brokering system using the selected communication
connection.

24. A computer program product for providing a
publish/subscribe service for publisher and subscriber
programs, comprising program code recorded on a
machine-readable recording medium, the program code

5   comprising:

means, responsive to receipt of a message from a
publisher program, for determining an appropriate quality
of service for onward transmission of the message in
accordance with subscriber-specified quality of service

10   requirements for the received message;

means for selecting a communication protocol in
accordance with the determined quality of service; and

means for transmitting the message using the
selected communication protocol.